DOCUMENT RESUME

ED 369 174 EA 025 792

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TITLE Improving Education Productivity through a Focus on Learners.
PUB DATE Apr 94
NOTE 14p.; Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April 4-8, 1994).
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cooperative Learning; Cost Effectiveness; *Educational Assessment; *Educational Economics; *Efficiency; Elementary Secondary Education; Foreign Countries; Investment; *Learner Controlled Instruction; Public Schools

ABSTRACT

Much of the reason behind educational reform is the belief that schools are not economically productive enough, that students are not learning enough for the resources invested in education. Other critics reject economic productivity as a framework for educational reform and support philosophical, psychological, or moral frameworks. However, improving the economic productivity of schools will improve productivity in other frameworks as well. A learner-centered schooling system can satisfy the requirements of multiple viewpoints. Despite more than 30 years of research, educators still know relatively little about how to improve teaching and learning. Not only are research methodologies limited, but learning is a complex and difficult-to-understand process. This complexity makes the traditional production-process approach to teaching ineffectual. The most important factor in education is what learners do. Traditionally, educators have paid more attention to teachers and teaching than to learners and learning. Emerging knowledge of how learning takes place indicates that it requires greater control and involvement by the learner. More independent learning, collaborative work by students, and diverse learning settings can increase students' involvement and success in learning. (Contains 48 references.) (JPT)

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ED 369 174

IMPROVING EDUCATIONAL PRODUCTIVITY THROUGH A FOCUS ON LEARNERS

Paper Presented to the
American Educational Research Association
Symposium on "Organizing for Learning:
Hearing the Voices of Learners"

New Orleans, Louisiana
April 5, 1994

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Improving Educational Productivity Through a Focus on Learners

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Prepared as part of the symposium, "Organizing for Learning: Hearing the Voices of Learners" at the American Educational Research Association, New Orleans, April, 1994.

Abstract

There is good reason to believe that to improve the economic productivity of schools we must focus attention on the activities of students. Although commonsensical, this focus is not evident in educational research or practice. Both the rationale for this change and some of its possible implications are discussed.

Introduction

The current movement towards educational reform in developed countries rests heavily on the view that schooling is not productive enough. Put simply, students are not learning enough given the resources being invested in schools. The notion of not enough return for the resources invested looms large in discussions of education policy in the United States, Canada, England, Australia, New Zealand, and in international debates. Economic productivity considerations have been a dominant influence in government-initiated reforms in many countries (Boyd, 1991).

To be sure, not all school reform advocates share the assumptions of the economic view. Some commentators have argued that schools are as good or better than they used to be (e.g. Berliner, 1992; Bracey, 1993). There are also strong advocates of school reform who reject the economic agenda and language lying behind much current government rhetoric about education. Some focus on issues of human development and tending to use language drawn from philosophy and psychology (e.g. Darling-Hammond, 1993), while others tend to use the language of virtue and morality (Holmes, 1992).

The debate between those who speak primarily about education as a matter of economics and those who use primarily the language of human social and moral development has tended to be sharply polarized. Not only are points of view quite different, but assumptions and vocabularies tend to have very little intersection, so that the sides seem to talk past each other.

I believe, however, that there are important points of intersection in these seemingly inconsistent ways of ordering the world of schooling. In this paper I advance the argument that a careful analysis of what is required to improve the productivity of schooling will result in proposals which coincide to a large degree with those being advanced on moral, social or psychological grounds. The link is the recognition that it is the work of students that is central to the success of schooling. A learner-centred schooling system is desirable both from an economic and a humanist standpoint.

The central role of learners

As long as there have been schools, educators have been involved in the search for the most effective ways of fostering learning. Despite centuries of observation and, more recently, thirty years of careful social science, we have are far from knowing how to bring about the kind of learning we say we want. The EEOR Coleman study (1966) was one of the first to draw the conclusion that we didn't know very much about how to improve achievement. A quarter

century's intensive research has modified, but not reversed Coleman's initial conclusion. David Monk, in a recent review of the extensive work on production functions in education, concluded:

> ...the underlying model of education productivity is inadequate and has not evolved much... The weakness of the conceptualization gives rise to much of the policy-making frustration (1992, p. 308).

The reasons for these difficulties are many. Some have to do with the relatively undeveloped state of methodology in these areas. As Monk pointed out, we are still far from being knowledgeable about how to study the production of learning effectively.

But methodology is far from the only problem. Learning is a highly complex matter. It is influenced - some might say largely determined - by a whole set of factors outside the school itself, including students' birth circumstances, health, family life, housing, nutrition, parental attitudes, geographic mobility, income, and leisure activities. The characteristics of students themselves - ability (itself a complex and possibly multidimensional concept), motivation, behaviour - are another critical element. Moreover, these factors operate not only on individuals, but in the ecological contexts of entire communities and nations. We have good reason to think still that all the efforts of schools often make very little difference in the face of students who cannot or will not do what we want them to, or in social settings where schooling is distant from people's lives.

Schooling as production

A central barrier in all the efforts to find better ways of educating lies in the assumption that education can usefully be conceived of as a standard sort of production process, much like an industrial process. This model has underlaid much research and policy in education.

Yet the analogy between schooling and production seems a false one when we consider more carefully how learning actually occurs. In a typical production setting, raw materials are transformed into finished products through a defined process that can be repeated in a standard way. For example, pieces of metal are rolled, cut, stamped, welded or bolted, and turned into a car body. Potatoes are washed, cut, fried, and turned into french-fries in a hamburger chain. The same process is repeated over and over, with the same result. Where the result is inadequate, we seek to improve the process.

Nobody who has tried, even for five minutes, to teach something to children (or, for that matter, to adults) believes that education proceeds in this standardized way. It is evident almost at once that what works with one class or student will not necessarily work with others, or that what works with a class on Monday won't work on Friday, or that what was effective in 1965 won't necessarily be so in 1995. Education cannot be provided effectively in a standardized, routine way.

There are at least two main reasons why education cannot reasonably be seen as a production process. The first is that human beings are intentional actors. We do not respond to the same circumstances in the same way all the time. Our actions in any given situation depend on the meaning that situation has for us. As we reconstruct that meaning throughout our lives, the same events can be interpreted in one way at one time, and in quite a different way at another time. Each person, as a result of differences in character, upbringing, situation or whatever, may have a different interpretation of any given set of circumstances. The social setting in which we find ourselves - its habits, ways of thinking, conventions - has powerful

effects on how we construe the world. The potential influences on human action and understanding are essentially infinite.

This view of humans as active constructors of a social world has been laid out fully and cogently by many social theorists and philosophers (e.g. Schutz, 1970; Giddens, 1984; Bernstein, 1976). I will not explore it here in depth, but will provide one example drawn from Orne (1962). He and his colleagues showed through a series of simple experiments that when told they were part of an experiment people would do a great many things that they would not do under other circumstances. Subjects persisted in useless behaviour because they concluded that the behaviour had some important experimental purpose of which they were unaware. In other words, they constructed meaning.

A second reason that education cannot usefully be considered a production process is that the normal production distinction between workers and materials does not apply. In a factory, workers operate on materials. The materials are inert, so assuming they are of reasonable quality, the standard of the finished product depends entirely on what the workers do (though much also depends on the conditions management gives workers in which to operate). Given high quality wood, the right tools, a good work environment and enough skill, good quality furniture will result. If the workers' skills are inadequate, they can be improved through training and practice.

In schools, however, it is not at all clear who the workers are, and even more doubtful as to whether there is anything that could reasonably be called 'raw materials'. We do apply that label to students sometimes, but a moment's consideration shows that students are far from inert. In fact, it is students who must do the learning in the end, regardless of what teachers do. If we were to continue the analogy of teachers as production workers, we would see them working in settings in which the materials could get off the assembly line mid-way through the process, or insist on moving to a different part of the factory. This would certainly make production a more difficult and less certain process!

Nor are we on much firmer ground if we consider the students as the workers. In a production process workers are doing something to some material, usually for some extrinsic purpose. Students often conceive of education in this sense - as doing something to prepare for a job, say. But most educators and virtually all philosophers of education see schooling as something with a much broader and less narrowly utilitarian purpose, having to do with becoming better people. Becoming educated is a never-ending task, and one which embodies some important tensions and contradiction (Burbules, 1990). If students are the workers, they are working on themselves and doing so in a way which is only partly related to the development of a finished product.

A production model of schooling, conceived of as analogous to a factory, is neither accurate nor useful. Students do not stand in relation to schools either as raw materials to be processed or as workers doing the processing. Education is a unique kind of production because it requires learners to create knowledge and meaning in the context of their own lives.

All of this means that the central - the absolutely critical - element in education is <u>what learners do</u>. Organizational arrangements, governance structures, curricula, facilities, materials, teaching, and all the other elements of schooling can make an important contribution to learning, but without the active involvement of students, there can be no education. Gary Fenstermacher (1990) has written that one of the differences between teachers and other professionals is that

teachers must try to give their knowledge and skill away to students instead of reserving it as do doctors or lawyers. One might go further and say that teaching can only be regarded as successful if students do develop their own skills and knowledge, regardless of what the teacher knows or does. Yogi Berra, after managing the New York Mets baseball team in 1960 to the worst record ever by a professional baseball team was asked to sum up the season. "I managed good", he is reputed to have said, "but boy did they play lousy!" But as every baseball fan knows, if the players don't perform, then what the manager does is superfluous. And there is no recipe for creating player performance. In schooling, as in baseball, it is what the participants - the learners - do that really matters. There can be no real improvement in the outcomes of schooling unless learners change what they do. This is the link between the situation of students and the productivity of schools.

Lack of attention to learners and learning

It seems self-evident to say that education rests on what learners do. Yet the truism, if it is such, is not very observable in mainstream educational practice, policy, or research. School practice continues to focus on organizing curriculum and teaching, making the dubious assumption that where policy leads, teaching will follow and learning will result. Debates about education policy and reform focus heavily on the role and actions of teachers, administrators and policy makers rather than of students, again on the questionable assumption that learning will follow. Education research gives vastly more attention to teaching and teachers than to students and learning. It is worth considering each of these assertions in more detail.

Education practice

The domination of schools and classrooms by educators, and the relatively minor and passive role accorded to students have been well documented (Cullingford, 1991; Goodlad, 1984; Knapp & Shields, 1990). Not only are students often treated as vessels to be filled, but their attempts to be active learners can often lead them into difficulties, as schools tend to value obedience over questioning (Wentzel, 1991).

These practices stand in sharp contradiction to an emerging consensus on how learning is most likely to occur. New work on learning emphasizes giving students' more control over their work, building on students' prior knowledge instead of relying on a priori curriculum knowledge frameworks, using students' experiences and drawing in the resources of their families and communities (Elmore, 1992; Iran-Nejad, 1990; Resnick, 1987). A growing body of work on motivation as seen from the standpoint of students draws our attention to learners' ideas about equity and fairness in the classroom as well as their concerns for relevance and relationship to the rest of their lives (Nolen, 1994; Thorkildsen, 1989).

Moreover, despite increasing evidence that the development of active and motivated learners is critical (Ames & Ames, 1984; Hastings & Schwieso, 1987) relatively little attention is paid to this issue in comparison with a wide range of other concerns. We might ask ourselves if, in our own settings, student motivation gets more discussion than do, say, teacher evaluation policies, or changes in curriculum documents, or school discipline policies. State or provincial departments of education have large units working on curriculum change or administrative procedures, but few or no staff devoted to changing the role of students. Richard Elmore has concluded that "changing teaching practice to accord with current conceptions of teaching for

conceptual understanding would probably disrupt the present regularities of school organization, and would probably require the creation of new structures to accommodate new practices" (Elmore, 1992, p. 46).

Reform proposals

The literature on educational reform and what is now called restructuring is quite diverse. One body of work calls for changes in governance - decentralization of authority, greater participation in decision-making by teachers, transformational leadership (Fullan, 1991; Lieberman & Miller, 1991). Most of this work advocates the distribution of authority to more parties in the educational system. Yet involving students is rarely - almost never - mentioned (Levin, 1994a). Zeichner (1991), for example, in a thoughtful piece about the value and limits of teacher participation in decision-making, mentions students only as an afterthought, and then only in secondary schools. The literature on school-based management advocates more important roles for teachers and parents, but students are usually omitted from the discussion. The literature on leadership rarely even mentions students.

The same critique applies to the advocates of increased professionalism in the school system. Many commentators have called for more autonomy for teachers, more teacher control over their working conditions, a greater emphasis on teachers as active learners, making schools more collegial places, and so on. It would seem by analogy that if autonomy and collegiality are helpful to teachers' development and skill, they would be equally so for students. For example, if safeguards for teachers in regard to formal evaluation are important, one would expect that students would also benefit from them. Yet the teacher empowerment literature is silent on the matter of empowering students in any equivalent way (Levin, in press b). One of the few exceptions to this neglect of students is Fullan (1991), who devotes a chapter to the critical role that students need to play as active learners and participants in their own education.

I do not want to imply that greater autonomy and responsibility for students must come at the expense of teachers. It seems more reasonable to take the position that schools will be most effective to the degree that students and teachers are seen as responsible, autonomous and capable contributors to the process of education. Unless good evidence can be marshalled to show otherwise, what is seen as good for teachers should also be seen as good for students, and vice versa.

Current reform activities sometimes show scant respect for teachers, but rarely or never ascribe any role to students beyond doing what they are told. If one looks at the content of many major school reforms currently underway one finds the same pattern. In South Carolina (Ginsberg, in press), in Kentucky (Lindle, in press), in Minnesota (Mazzoni,, 1992) in England (Simkins, Ellison & Garrett, 1992), in New Zealand (Macpherson, 1989), in Australia (Macpherson, 1990) and elsewhere, reforms have focused on changes in teacher training, teacher evaluation, school governance, curriculum, or graduation requirements. The activities of learners have received little or no direct attention in most of the reform efforts. The exceptions are largely found in smaller-scale, less bureaucratic initiatives such as those led by Robert Slavin, Henry Levin or James Comer, or the work of the Coalition of Essential Schools.

Education research

The dominant conceptualization of students in education research is not as acting subjects, but as recipients of the actions of teachers and others. The use of the word 'subject' in the empirical literature in reference to students is really as misnomer; students are the objects of the research, not its subjects in any real sense. And even when students are the focus of attention, it is quite unusual to find careful attention to how they think and understand the school as an institution.

For example, Melvin Wittrock, reviewing research on students' thought processes in the Third Handbook of Research on Teaching, noted that "...we must know and understand students' perceptions and previously learned strategies in order to teach a new strategy, and to understand how students will respond to it" (1986, p. 301). Yet the chapter has very little to say about how students think. Most of it reviews studies in which experimenters tried various manipulations to see what their outcomes would be. Learning directly from students about their thinking is essentially absent. In the same volume, in an otherwise valuable discussion of models of thinking about teaching, Lee Shulman (1986) provides almost no comment on the importance of students' understandings and intentions in affecting both teaching and learning. In their review of research, Erickson and Schultz conclude that "...vitually no research has been done that places student experience at the center of attention" (1992, 476).

As in the other areas, some exceptions can be found. A body of anthropological studies on students in schools (e.g. Willis, 1977; Metz, 1990) has attended to students as key actors. Work on constructivist learning and on students' motivation is also often learner-centred (e.g. Thorkildsen, 1989). In many curriculum areas there is current work focusing on how students make sense of their experience. Some work is being done on the concept of students as 'co-producers' of learning (Coleman, Collinge & Tabin, 1993). But it is still far more common to find students described, if they are mentioned at all, as pawns in a game being played by others. Cedric Cullingford (1991) interviewed more than 100 English students as the transition between elementary and secondary schooling. He found that they rarely talked about why they were going to school, or why schooling was the way it was; they simply did (or did not do) what they were told. That his book is so revealing about the limitations of schools is itself a commentary on how rarely we pay such careful attention to what students think.

The Implications of Focusing on Learners and Learning

What would it mean to focus education on learners and learning? Amazingly enough, we have few examples to go on, so the discussion must be to some extent speculative.

The first step would be to pay careful attention to what students are doing and thinking while in school. This means directing research attention to students. How do they use their time? Why? What makes them more likely to put forward effort? What kinds of organization, content and instruction do students find motivating? We simply do not know nearly enough about any of these questions, and we don't study them enough to learn more.

But even given what we do know, there are some measures that can be taken to tilt the focus of schooling more towards learners. These can only be sketched here; each of them requires a fuller treatment than this paper allows.

More independent learning

One of the avowed goals of schooling is to develop independent learners; people who want to and are able to learn on their own after they leave school. Yet in most schools students are given little opportunity to work independently (Levin, 1994a). Indeed, it may be that students in preschool and primary have the greatest independence in their learning, with students' control being steadily reduced thereafter. Secondary students, supposedly on the verge of being independent learners, are typically prohibited from doing anything without explicit permission.

It seems unlikely that students can learn to be independent without actually being independent. The implication is that schools ought to give students tasks or projects which require some sustained effort over time, and then give them the ability and the scope to organize themselves to pursue these projects. One might want to start with smaller projects with younger students and gradually expand the scale as students grew older and more experienced, but the emphasis should be on developing the ability to plan and carry out long-term projects of serious import. Note that what is required here is not simply giving students long-term work, but also giving them the freedom to organize the work for themselves, with, perhaps, regular progress reports or some other form of monitoring.

There is no reason why schools could not organize curriculum, timetables and facilities so that a significant number of students were, at any one time, working independently (whether individually or in groups) with minimal or no supervision. A few high schools using this approach have been in existence for many years, though they have not been widely copied. Although some educators may take the view that students are not "ready" for this practice, it is exactly what universities require and what employers say they want. We may have to help students learn to work more independently, but if we do so it is reasonable to expect that every student would be able, at the end of 10 or 12 years of school, to take on and complete independent projects. Indeed, if after 12 years of school students cannot work independently, we have failed to meet one of the most often-cited goals of schooling.

More collaborative work by students

Almost all schools proceed from the assumption that teaching is done by teachers. From this follows the whole process of timetabling and classroom organization - the building blocks of school organization. Yet it is possible to organize so that groups of students carry out important parts of the instructional function rather than having it all in the hands of teachers. We often hear that more use of collaborative work is consistent with what happens in most workplaces, and is a skill that students should develop. Moreover, the evidence indicates that collaborative group strategies can yield results which are quite satisfactory.

Students can play instructional roles in several ways. One of these is through peer tutoring, a practice which has been shown to produce quite good outcomes (Madden & Slavin, 1989). Peer tutoring can involve students of similar ages, or students of different ages and abilities. It allows the school to use a whole set of resources - the knowledge and skills of its students - which are usually ignored.

A second possibility is the use of student learning groups. Cooperative education is an example of using student learning groups, and one which also has considerable research support (Slavin & Madden, 1989). At the post-secondary level the creation of student study and support

groups is associated with better outcomes such as higher retention rates. It seems reasonable to suppose that the same might be true in secondary schools, and possibly even in elementary schools. The implication is that schools can deliberately organize students to work with each other in a way which helps all of them learn more.

More diverse learning settings

Another way of focusing our attention on learners is to expand the range of settings in which learning occurs. Despite a long advocacy of moving education into the community - or, more accurately, recognizing and treating the community as a place of education - formal education is still carried out almost entirely in buildings which are used only for that purpose (schools). In many schools fieldtrips continue to be quite unusual, and to be seen, by students and by teachers, as a break from the real work that goes on in classrooms. Developments such as co-operative workplace education and work placements, while not uncommon, still account for a relatively small part of the school experience of most students.

A major reason for the continued reliance on school buildings is to allow students to be closely supervised by teachers. It is much easier to keep an eye on twenty-five children in one room than on twenty-five children in a museum or park. Yet there is wide and probably increasing recognition that learning can and does occur in many different settings. People learn a great deal in their homes, workplaces, playgrounds, and other settings. Howe (1990) has argued that significant increases in educational levels are now more likely to come from the activities of parents with their children at home than they are from improvements in formal schooling.

Expanding the range of learning sites has the potential to change many aspects of schooling, and certainly will alter the role that students play. Once removed from the school setting with its close supervision, more independence and autonomy for learners is very likely to occur. Some may fear the results, but it seems more desirable to see independence as a goal to be pursued rather than a problem to be avoided.

These three examples are only that - possible ways of increasing the importance of learners in the conduct of schooling. Other possibilities could be cited (e.g. Levin, 1994 b, in press a, in press c). For example, more use of technology has the possibility of allowing learners to pursue their own interests more effectively. Since students are often more expert in the area of technology than are teachers, traditional relationships and roles can be altered in salutary ways. Changes in assessment practices to stress a student role in determining assessment activities and criteria is another worthwhile alternative. My colleagues in this symposium will provide other examples, and explore some of these in more detail.

The key point to be made is that we do have some paths to follow in our efforts to improve learning and to improve the productivity of schooling. The final section of this paper considers reasons for the lack of attention to these possibilities.

The Possibilities for Change

The gap between human knowledge of what to do and human action is frequently large. Knowing what to do and doing it are two quite different things. And as I discovered when I moved from being an administrator to being a professor, it's much easier to give advice than to

implement the advice of others. A large body of literature tracing the very limited effects of our efforts to reform schools (Cohen, 1988; Cuban, 1990: Elmore, 1992). There are good grounds for caution about our ability or willingness to do what we know to be right.

For example, much of the current economic critique of schools is guided by a narrow and short-term self-interest. The preservation of existing power structures and patterns of inequality is seen as requiring a sharper separation of winners and losers, with the school system doing much of the sorting. Heads of economic enterprises and seekers of political office may find it easier to blame schools for economic problems than to face the economic problems themselves. Nor are educators immune from putting immediate welfare and comfort ahead of the long-term requirements of students.

Even where the will to change may exist, sufficient drive and imagination to make change successful may not be found. Marginal or incremental changes are unlikely to result in a sufficient improvement. Yet large changes are notoriously difficult to bring about. They require skill, imagination, trust, solidarity, and intense and unremitting effort. People must believe that something better can be created even if we are not sure at the outset what it is or how to create it. These conditions are not often found together.

At the same time, the very notion of education must be an optimistic one (Burbules, 1990). If we assumed that hope were a delusion and improvement impossible, we could not continue to be educators. Edna St. Vincent Millay wrote in her poem, **Dirge Without Music** what might be a motto for education reformers - "I know, but I do not accept. And I am not resigned."

Moreover, there are some real grounds for optimism. Increasing the autonomy of learners need not mean a loss of status for anyone else. We are not necessarily advancing the position of some at the expense of others. The sorts of changes I am advocating require the active participation of everyone concerned with education and cannot be done by fiat from above. A learner-centred system of education is consistent with much of the existing rhetoric of education. It accords with some widely-held and deep-seated ideals of liberal societies. It has the possibility of engaging and improving us at the same time. It is a goal well worth pursuing.

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